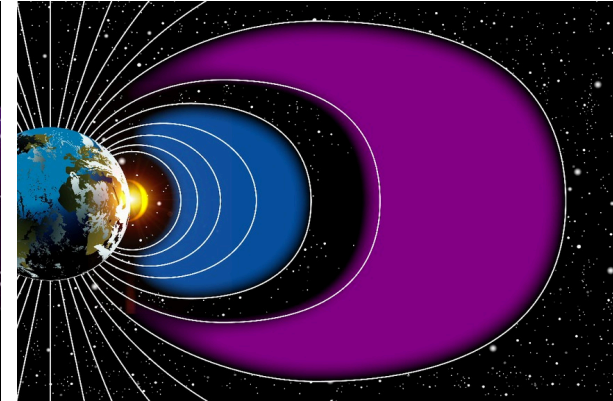
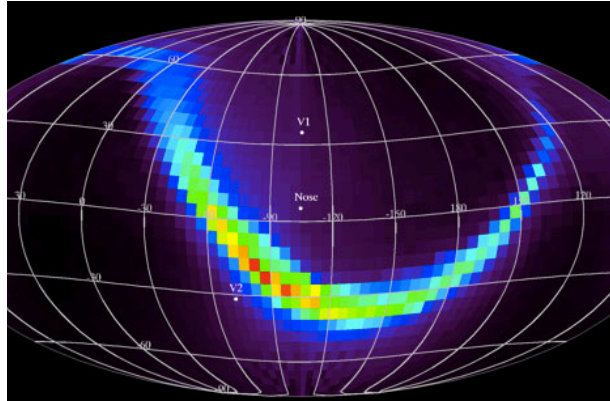
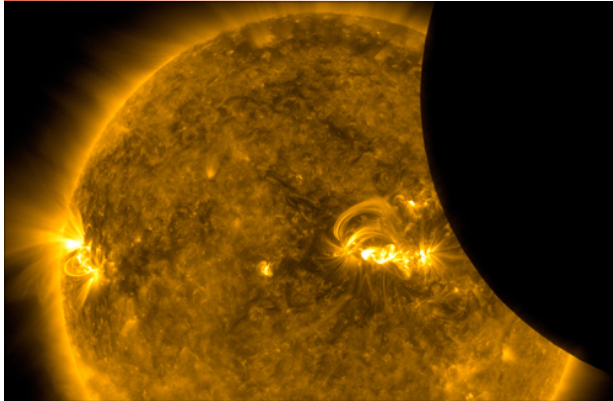


National Aeronautics and
Space Administration



SCIENCE



Geospace Dynamics Constellation (GDC) Science and Technology Definition Team (STDT) Update

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Overview

- Introduction
- Current Status
 - Call for Letters of Application
 - Request for Information
 - STDT Membership
- Planned STDT Process
 - Schedule
 - Meetings
 - FACA

Introduction

- GDC is the LWS mission recommended by the 2013 Decadal Survey.
 - + - The DS science questions address the flow of energy from the solar wind through the magnetosphere and to the ITM system, and the complex interaction between these regions.
 - + - The DS nominal mission design is six identical spacecraft in highly inclined orbits and equally spaced in longitude.
- The STDT is charged with 1) validating and updating the science objectives from the Decadal Survey, and 2) producing design reference missions for GDC, especially for those architectures enabled by technology advances since the Decadal Survey.
- The STDT's final report is expected to present multiple mission architectures, with an examination of their scientific returns and trade-offs.

Call for Letters of Application

- The Call was released in July 2017
- There were ~40 responses by the application deadline, and a few people submitted applications after the deadline

Request for Information

- The RFI solicited input on GDC for use by the STDT and/or for HQ discussions.
- The RFI was timed so that the responses (due in November) could inform the STDT membership while permitting informal invitations in January.
- 65 responses were submitted, with most to be passed onto the STDT
 - Those not conveyed are outside the scope of the STDT's deliberations or specifically for HQ's use.
- The responses covered the range of topics requested in the RFI, and some also provided other information or context for the STDT
 - e.g., science objectives, measurements, mission architectures, non-spaceflight capabilities, historical development/context of the mission concept

STDT Membership

- The STDT on-boarding is in-progress, and we will publicly announce the Team's membership when the appointments are made.

STDT Schedule

Before and between in-person meetings, the STDT will be working offline and participating in preparatory/organizational telecons

Tentative Schedule:

- May In-person meeting
- July In-person meeting
- Aug-Oct Design reference mission work
- Dec Mid-term report to HPAC
- Mar/Apr 2019 Final report to HPAC

STDT Schedule

- STDT's discussions will initially focus on the science questions and objectives.
 - + - They will start with the Decadal Survey science questions, and will focus down to more refined science objectives.
- After the objectives are set, they will discuss the measurement requirements.
- Those measurement requirements will then lead to implementation requirements.
 - e.g., measurement (non-)colocation, pointing requirements, measurement altitude(s)
- The STDT will then discuss different mission architectures, including their science trades, before moving on to work on the design reference missions.

STDT Meetings

- The meetings will be used to start and complete stages of the process.
- The meetings will be open to the public via a phone line, and public comments will be solicited as PDFs emailed to the GDC Program Scientist (J. Leisner), who will convey to the STDT.
 - The schedule includes room for a post-meeting public comment period and time for the STDT to consider any submitted comments.

STDT Meetings

- The STDT has the option to ask NASA to invite groups or individuals to give presentations. These guest presentations would inform the STDT's deliberations, but the presenters would not participate in them.
 - There is no time requirement on this, so we are open to adding presentations during the process.
- NASA has already identified some potential presenters, and will work with the STDT and co-chairs to finalize a list after the appointments are made.

Federal Advisory Committee Act (FACA)

- This is the first STDT to proceed under FACA. The requirements are new to much of the community, so we are working to ensure that everyone is given clear guidance.
- At a high level, the STDT's deliberations and report will not involve any particular matter that could give an individual or institution an advantage in any subsequent NASA activities.
 - All STDT implementation discussions will focus on measurement requirements, without specifying instruments. The mission design work will use model instruments that are not chosen by the STDT.
 - The RFI responses and other public comments will have references to potential science payloads or other specific capabilities (e.g., models, ground-based observatories) redacted. For instance, comments on the need for modeling to link the multiple observations are welcome, but comments on the merits of particular models will be excluded.



Questions?